

Notes of NSA Meeting
November 5, 2007, 257 Science I, Ames

Participants: Tom Wilton, Joe Larscheid, John Olson, Ed Brown, Chris Jones, Mike Burkart, Bill Ehm, Mike Birmingham

Observers: Connie Dou (DNR), Anita Maher Lewis (AML Consulting), Chris Gruenhagen (Iowa Farm Bureau), Tom Oswald (NRCS), Lisa Fascher (DNR), Connie Dou (DNR), Chuck Corell (DNR), Gary Welker (USEPA).

The meeting started at 10:00

We reviewed the discussion that led to using 75% as the recommended frequency for Chl-a and Secchi depth magnitudes. Those who read the Mittal and Lassar paper agreed with the statements in the recommendation using these findings to support the 75% threshold.

*After pointing out the need to include specific language referring to EPA's reference-lakes based criteria, Tom Wilton agreed to investigate the reference(s) and develop language to insert with the appropriate citations.

The discussion about TN as a criterion in draft 7 was determined to be inadequate. No one could cite information that showed that N impaired water for recreational contact. However, it was agreed that we needed to include at least some advisory statement for DNR because EPA expected something for both N and P. Ed Brown pointed out that literature provided evidence of N limitation only when TP was <35. Tom Wilton read excerpts from Downing, 1992 that indicated N limitation at both high and low TP values. We discussed the use of the Redfield ratio for an N criterion.

*Ed Brown agreed to draft a statement to support a TN criterion associated with low TP values after studying the appropriate literature. He also agreed to read the Minnesota criteria document to find language justifying no recommendation for N criteria.

Discussion on language for frequency and duration led to an agreement to describe conditions meeting the magnitude criteria for Chl-a and Secchi depth. Language will include at least 75% of samples over three continuous summer recreation seasons. Summer recreation season will be defined as between Memorial Day and Labor Day. We have used 3 samples per summer in our analysis, so this will be included in the statement as the basis for calculating the 75%. UHL samples have been taken during 2005-2007 from most of the same lakes as the lakes study project. During 2006 (?) two additional samples were taken (one earlier and one later) than those of the lake study. These additional samples will not be used in generating our analyses.

*Mike Burkart agreed to draft language including these principles for the final recommendation draft.

Discussion of the summary table showed an error had been made that included frequency and duration statements for TP. Further discussion of the TP criteria led to an agreement that this criteria should remain as one tied to Secchi and Chl-a rather than trying to define specific frequency and duration to the TP magnitude.

*John Olson agreed to work on language and find references for statements on p. 2 that define pre-settlement nutrient conditions.

*Tom Wilton thought it was necessary to include in the summary some statement that the group recognized that some fraction of Iowa's lakes would not be able to meet the criteria. Tom agreed to draft such a statement.

Tom Wilton again stated his perception that in Figs 4 and 5 larger parts of the distribution appeared not to fit the statistics. He thought the problem was caused by plotting the frequency of individuals ranking a lake rather than the proportion (%) of individuals that ranked a lake swimmable (≥ 6 on the EPA ladder).

*Mike Burkart agreed to contact John Downing, the author of the diagrams, to attempt a redraft.

There was some discussion about the use of median vs mean in characterizing the magnitude of TP. We agreed that mean values for TP would likely be larger than median because of some of the very large values that served as outliers. Joe Larscheid did some quick calculations and found that the difference was very small.

*Joe Larscheid agreed to produce a graph showing the regression of secchi depth and Chl-a to TP along with some text to be used to support the links between TP and these two response variables.

* Mike Burkart agreed to contact John Downing to see if he can reproduce Fig. 6 with median values rather than mean. If he can and will redo the figures, we will include them and change the caption and language to reflect this.

Next steps:

Next meeting(s)? If needed, tentatively set for Dec. 17.

*Joe Larscheid agreed to contact Steve Heiskary to see if he is willing to come down to talk to us about the basis for setting Minnesota nutrient criteria. The weeks of Dec. 10 and 17 were targeted.

If we need another meeting we set Dec. 17 as a tentative date. Mike Burkart did not see this as likely to be needed, however.

Aquatic Life Strategy:

We discussed a strategy to approach “aquatic life” in streams, lakes and wetlands. Mike Burkart mentioned that he had discussed the topic with Rich Leopold who suggested we identify the questions his policy staff needed to address. Our previous discussions pointed out that lakes were currently lumped with wetlands as aquatic life uses and fish dominated stream criteria with “... and other aquatic life.”

Chuck Correll didn’t think the DNR staff would be able to say much more than we could about what aquatic life should be protected. He suggested a group like ours would have to be consulted. Mike Burkart suggested that some iterative process may have to be initiated that matches what is scientifically know and defensible and what policy was appropriate or acceptable.

A couple specific questions that came up were:

What are the appropriate response variables affected by nutrients?

What biota do you want to protect?

Can wetlands, shallow lakes, deep lakes, and other subdivisions be defined for which biota and nutrient criteria can be identified?

Joe Larscheid reminded us of the study he was starting to identify an Index of Biological Integrity (IBI) for Iowa Lakes. Obviously, the results of this study will be useful.

Mike Burkart suggested that a day-long symposium might be a good way to learn what is known about the biota needing protection. Chuck Correll suggested DNR could help organize such a conference for the Midwest or region, perhaps with the help of EPA. This would be beyond the scope of the NSA.

*Mike Burkart, Chuck, and Tom Wilton agreed to discuss possible opportunities for such a meeting/symposium/conference.

One proposed concept to pursue would be to characterize the existing aquatic habitats. The next question may be what are the critical or indicator species that represent each habitat and can provide sufficient response to nutrients to allow their definition as response variables.

Final draft of NSA recommendations. Mike Burkart said he was prepared to send Rich Leopold a final draft of our recommendations by the end of 2007. He mentioned that Jeff Kopaska (sp?) had agreed to review and comment. He asked for names of other individuals who could review the document. Gary Welker offered the services of EPA and their contractors.

Mike asked for all additions and modifications to be sent to him by Dec. 7. He would incorporate all the modifications by mid-December and return the resulting file to all of us for final review before January 1.